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Modification of stress-strain behaviour in aromatic polybenzoxazines using core shell rubbers

Elliot Douse, Sotirios Kopsidas, David Jesson, Ian Hamerton*

Supplementary Data

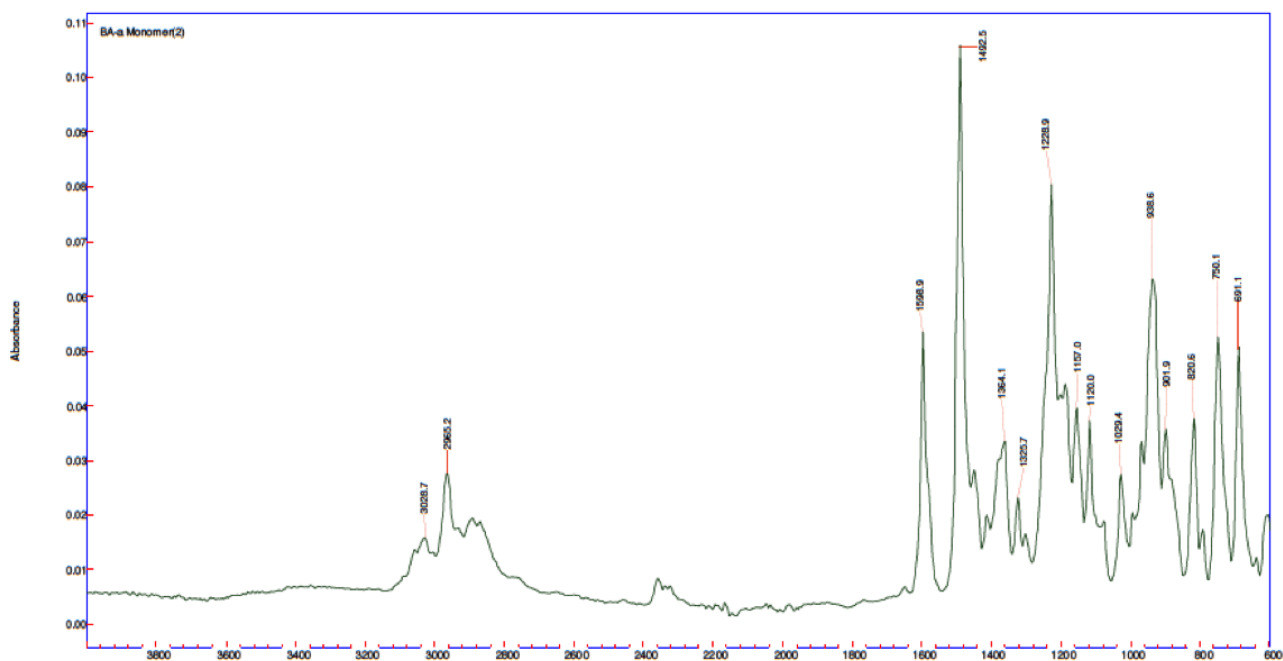


Figure S1 FT-IR absorbance spectrum for BA-a monomer

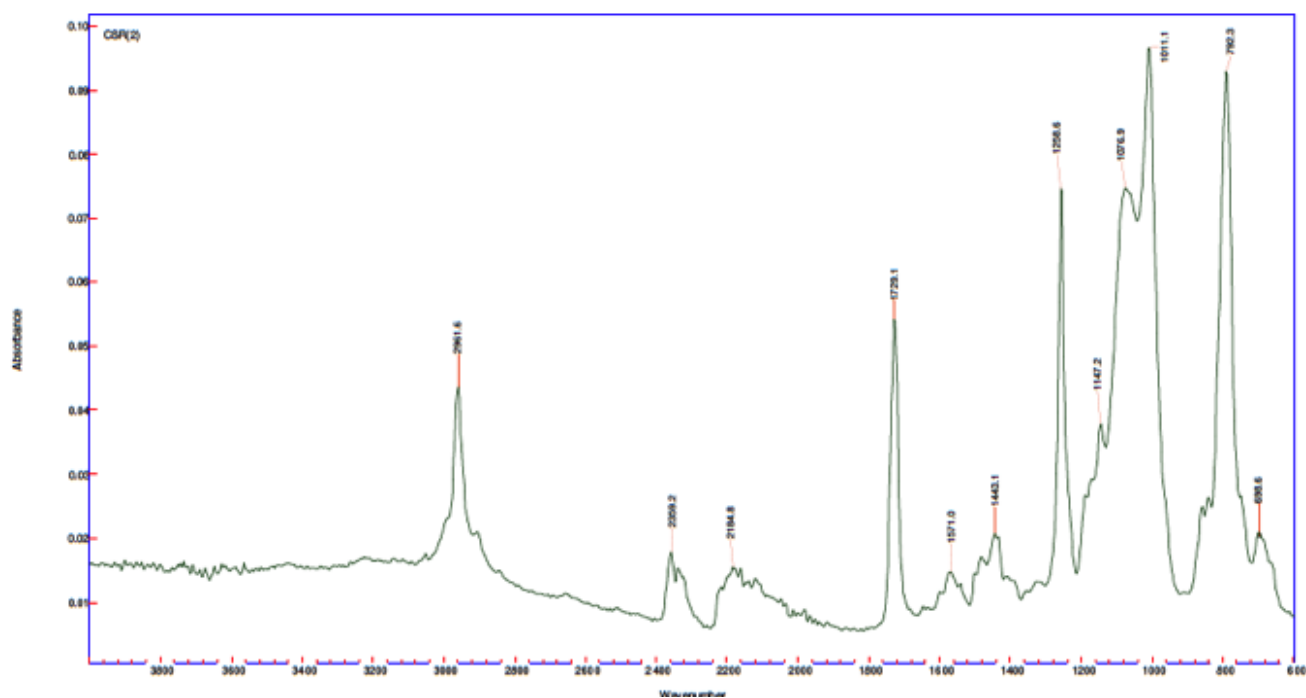


Figure S2 FT-IR absorbance spectrum for Genioperl P52

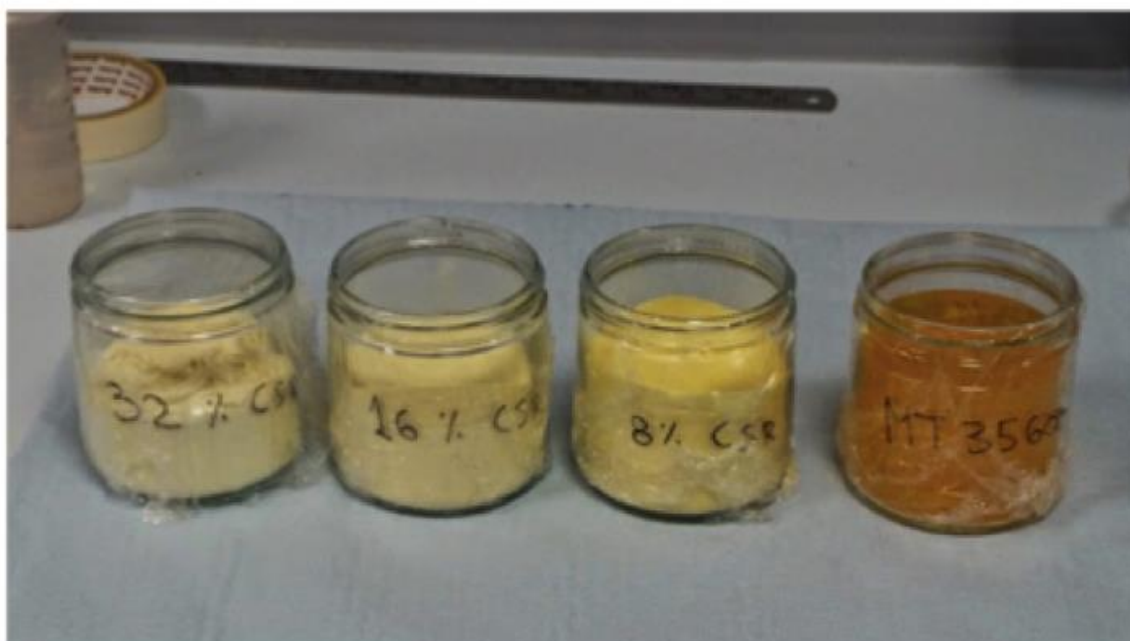


Figure S3 Photograph of the produced blends (from left to right: 32 wt %, 16 wt %, 8 wt % and 0 wt % CSR).

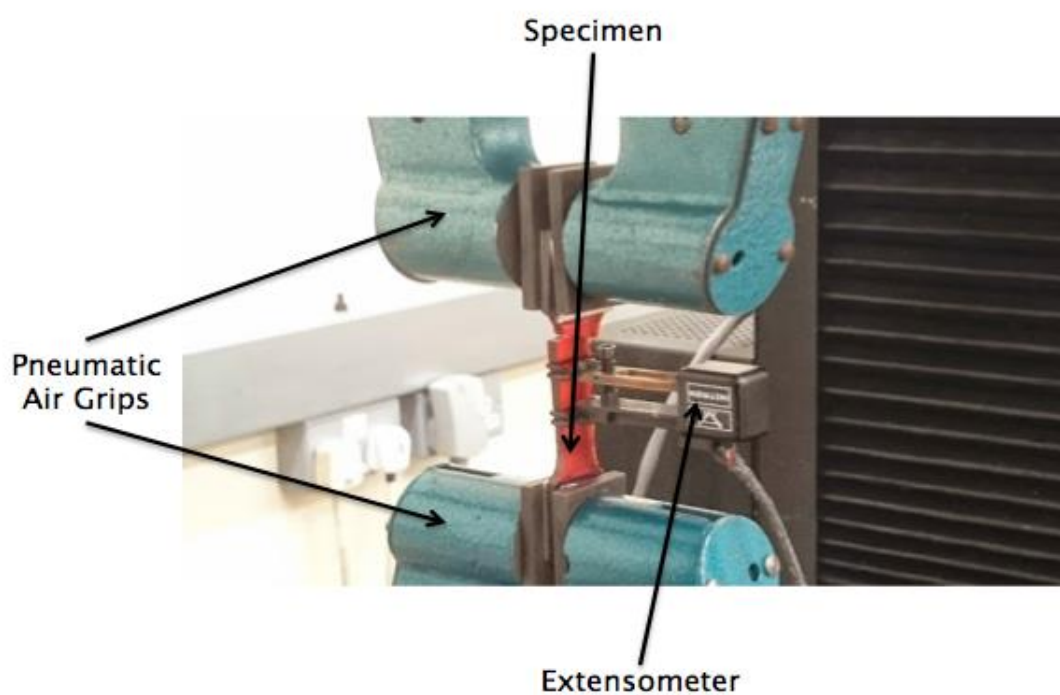


Figure S4 Instron Dynamic 2620-602 Tensile testing apparatus

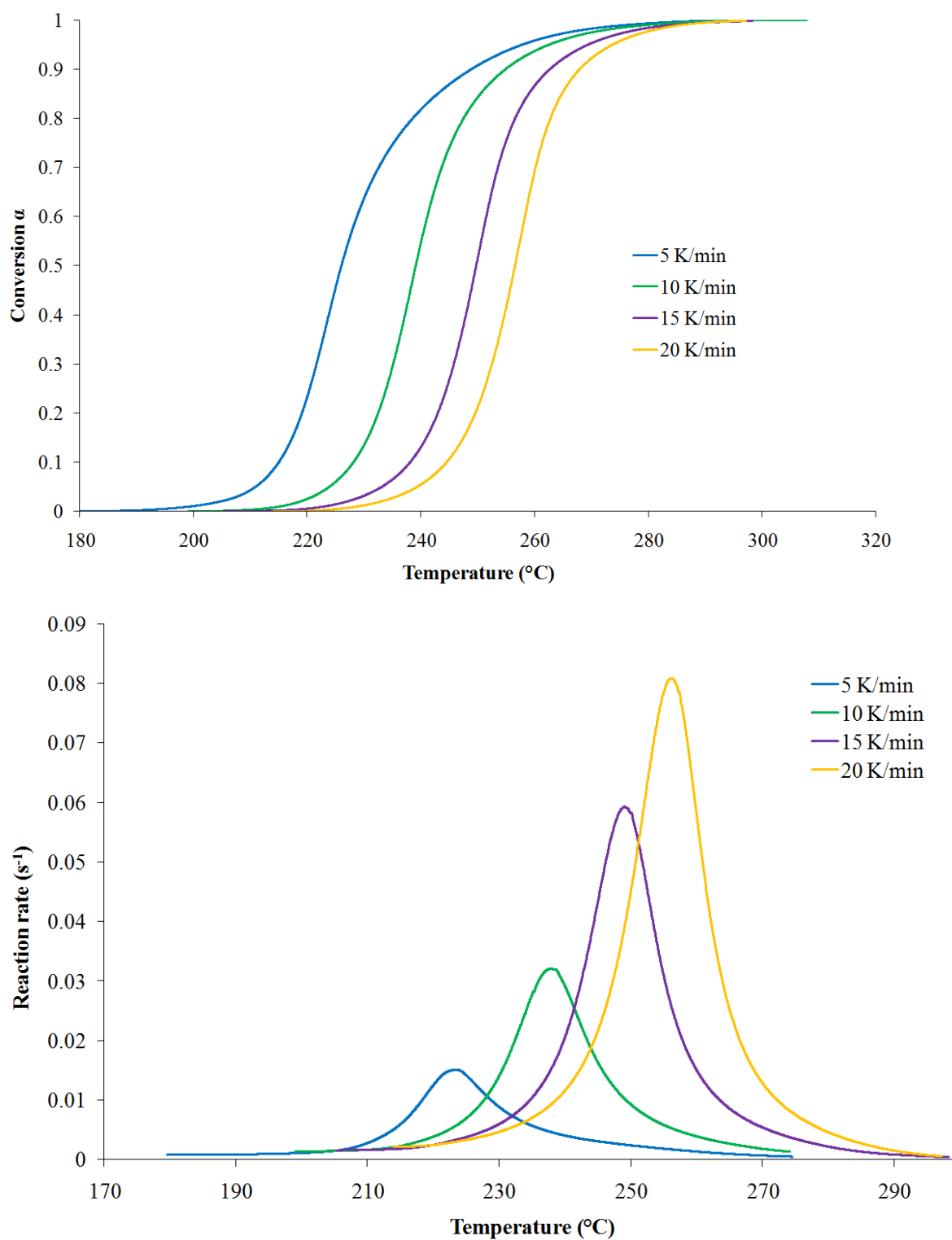


Figure S5 Fractional conversion (top) and reaction rate (bottom) for BA-a as a function of temperature at different heating rates.

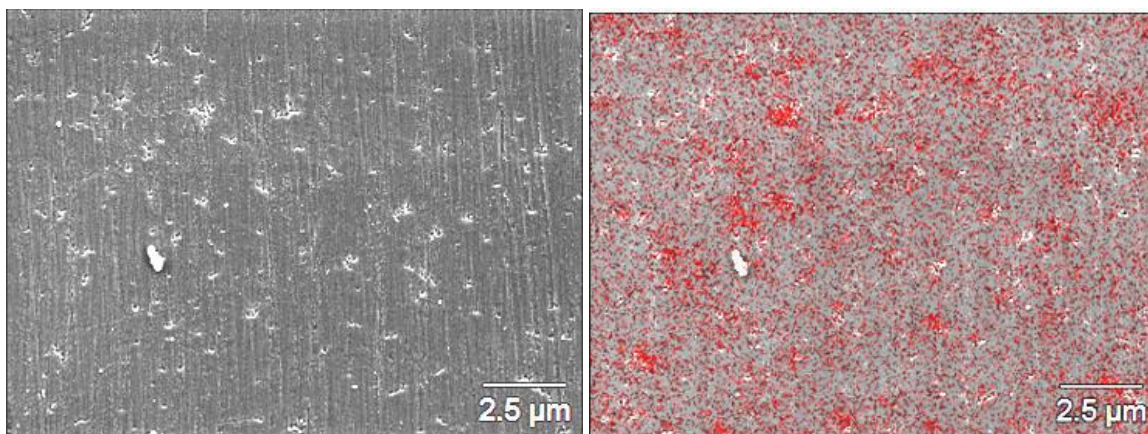


Figure S6 SEM (left) and EDS (right) images of solvent dispersed sample at 7000x magnification. Red dots show Si identified by EDS.

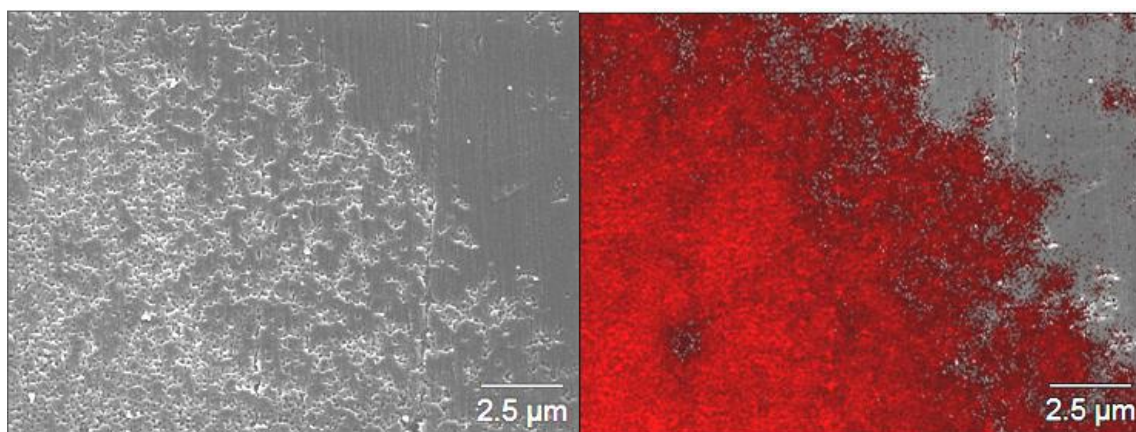
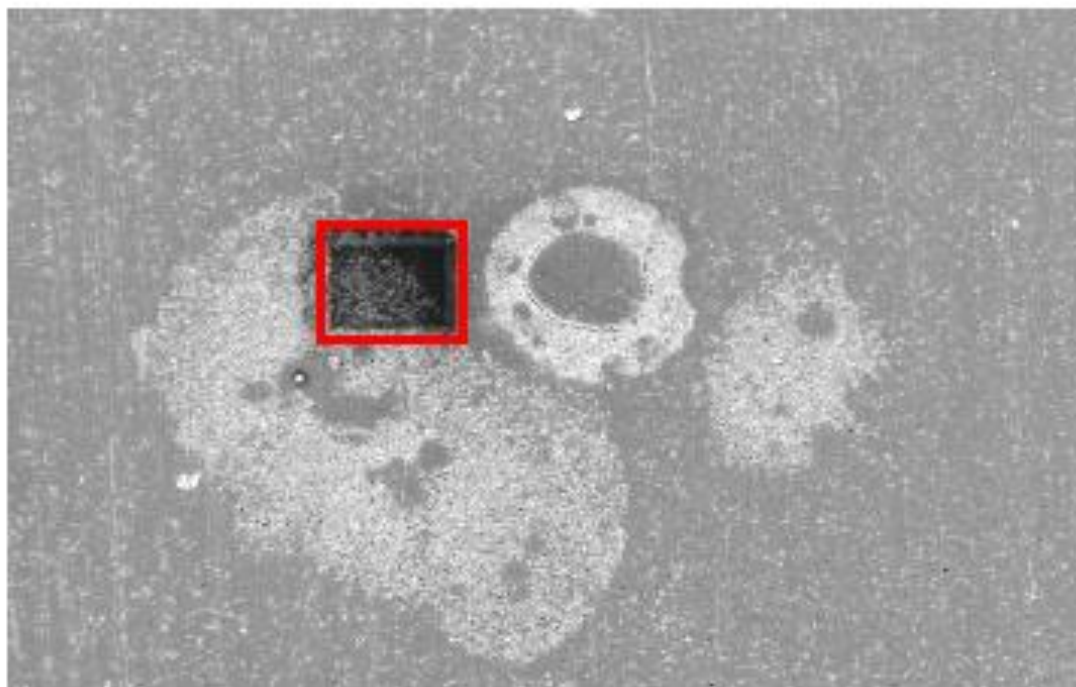


Figure S7 (top) Example of agglomerate at 430x magnification (area outlined was analysed by EDS); SEM (bottom left) and EDS (bottom right) images of agglomerate. Red dots show Si identified by EDS.

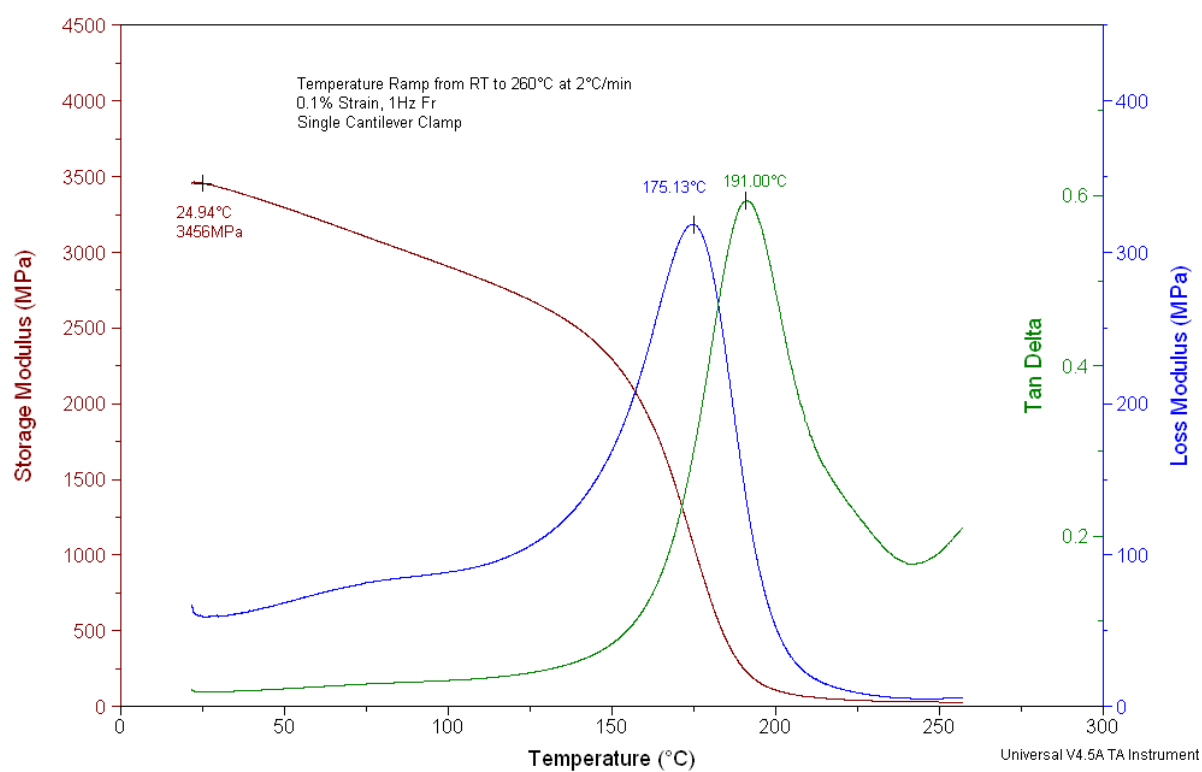


Figure S8 DMTA data for poly(BA-a)

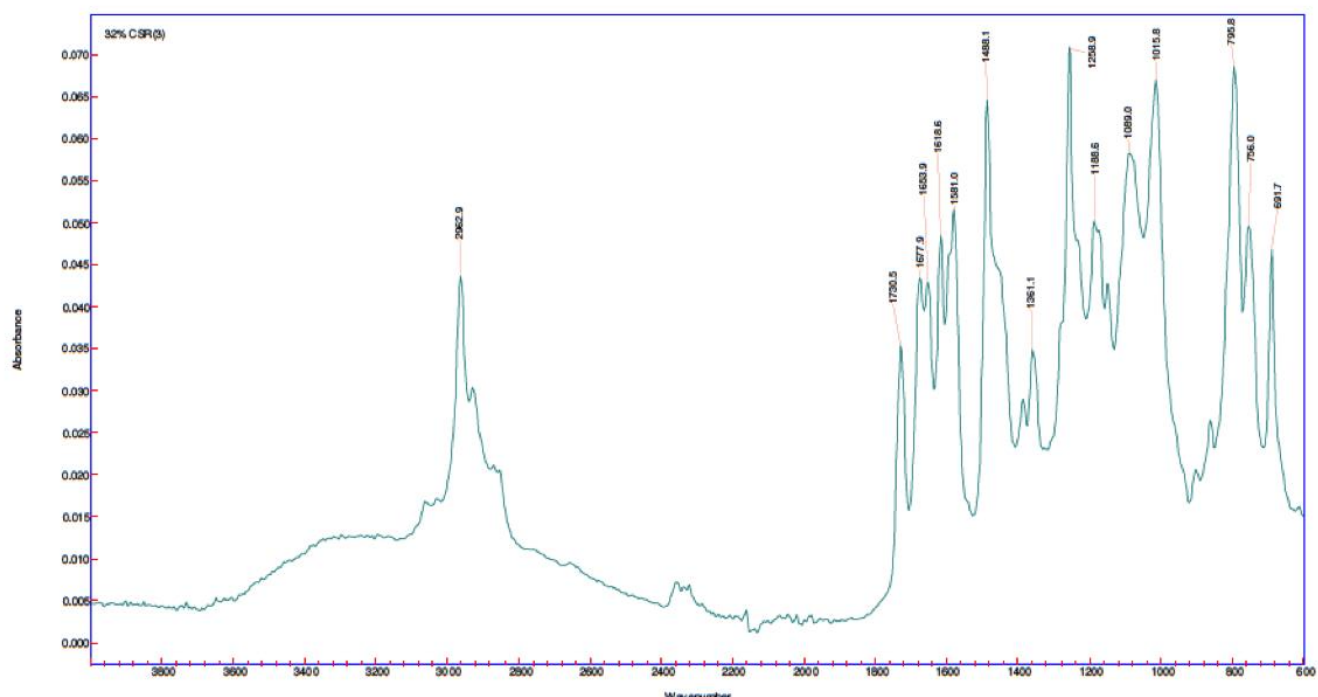


Figure S9 FT-IR spectrum and peak assignment for cured poly(BA-a)/CSR (32 wt %)

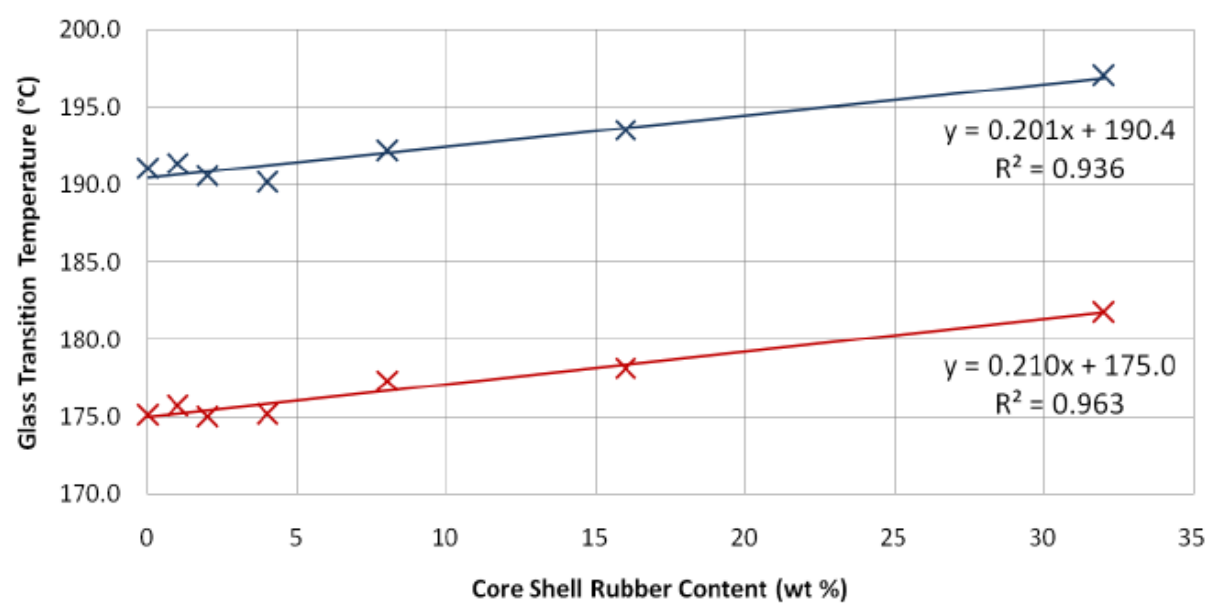
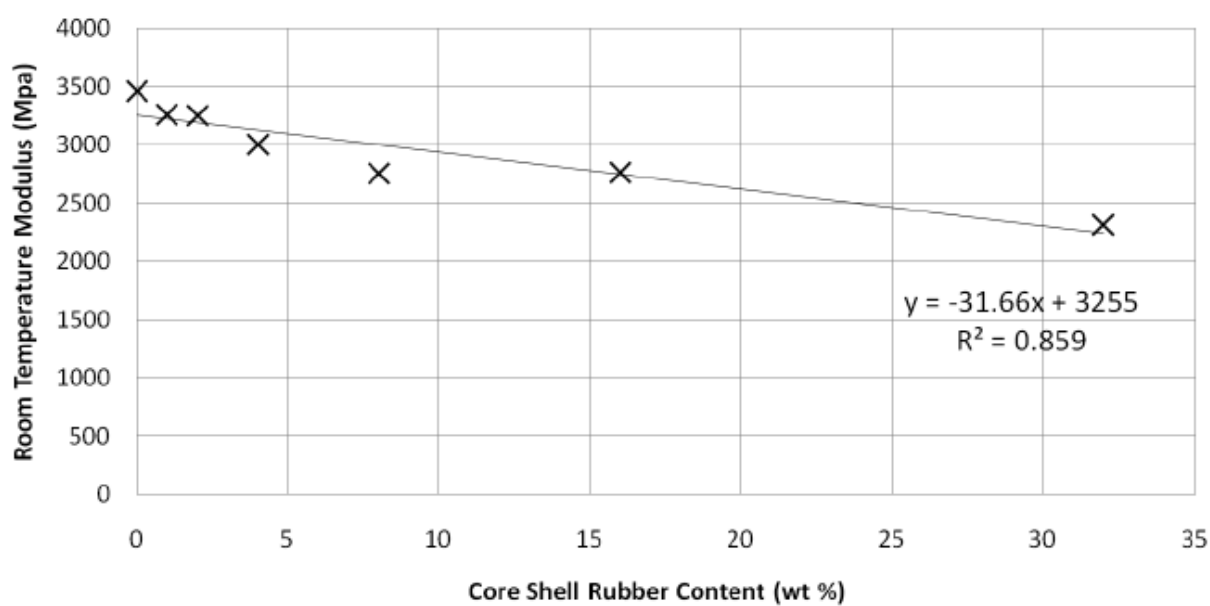


Figure S10 Plot of DMTA data for poly(BA-a) containing different concentrations of CSR (N.B. T_g determined from tan δ (blue) and loss modulus (red) maxima in the lower traces).



Figure S11 Manufactured specimens of poly(BA-a) containing 0 wt %, 8% and 16% CSR (from left to right) (top) and 32 wt % CSR (below)